Small Business Innovation Research/Small Business Tech Transfer

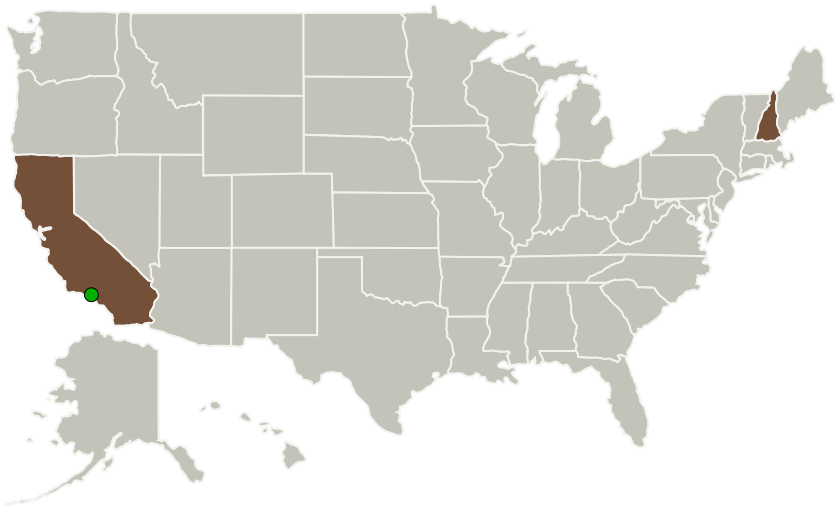
Hyperspectral Longwave Infrared Focal Plane Array and Camera Based on Quantum Well Infrared Photodetectors, Phase II

Completed Technology Project (2010 - 2012)

Project Introduction

We propose to develop a hyperspectral camera imaging in a large number of sharp hyperspectral bands in the thermal infrared. The camera is particularly suitable for the multispectral thermal infrared (TIR) imager of NASA's HyspIRI Mission. In Phase 1, we successfully developed a crucial camera component: a 640x512 focal plane array (FPA) with 8 - 12 micron broadband longwave infrared spectral response. In Phase 2, we will integrate the FPA with a linear variable filter in a dewar cooler assembly and package the resulting sensor engine with electronics and optics into a camera system. The camera, featuring digital and analog video outputs, will be delivered to NASA at the end of Phase 2 for feasibility testing for the HyspIRI and other NASA missions.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
QmagiQ, LLC	Lead Organization	Industry	Nashua, New Hampshire
Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

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Primary U.S. Work Locations	
California	New Hampshire

Project Transitions

March 2010: Project Start

March 2012: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/139097)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

QmagiQ, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

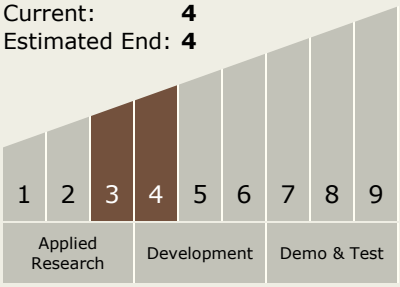
Carlos Torrez

Principal Investigator:

Mani Sundaram

Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



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Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.1 Detectors and Focal Planes

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System